

REMARKS/ARGUMENTS

The Examiner is thanked for the Office Action mailed October 3, 2007. The status of the application is as follows:

- Claims 1-29 are pending. Claim 25 has been amended herein. Claims 28 and 29 have been added.
- Claims 1-4, 6-9, 17 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. (US 5,777,335) in view of Coon et al. (US 4,891,522).
- Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. in view of Coon et al. and further in view of Batten et al. (US Pub. 2004/0079904 A1).
- Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. in view of Coon et al. and further in view of Hoffman (US 6,115,448).
- Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (US 6,256,404 B1) in view of Mochizuki et al. and Coon et al.

The rejections are discussed below.

Allowable Subject Matter

In the Allowable Subject Matter section in subject Office Action (page 2, paragraph 2), the Office states that the allowability of claims 5, 18, and 19 is withdrawn in view of newly discovered reference to Coon et al. and that the rejections thereto follows. However, in the remainder of the Office Action the Office does not address claims 5, 18, and 19; none of the rejections include claims 5, 18, and 19. Therefore, it is believed that claims 5, 18, and 19 are still allowable, if written in independent form.

Furthermore, the goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of

patentability and otherwise reply completely at the earliest opportunity. (See MPEP §706). The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. (See 37 C.F.R. §1.104(c)(2)). The Office must point out where the specific limitations of the claims are found in the prior art. (See *Ex Parte Naoya Isoda*, Appeal No. 2005-2289, Application 10/064,508 (Bd. Pat. App. & Inter.2005)). Therefore, any rejection to claims 18 and 19 in a subsequent Office Action must specifically identify each feature or element in the cited reference which is deemed to correspond to the claimed elements and limitations, and if possible the location in the cited reference where the relevant feature or element is discussed.

If the Office decides to set forth a rejection to these claims in a next Office Action, such a rejection would raise new grounds and, therefore, the rejection should be non-final.

It is also noted that Coon et al. does not teach or suggest the aspects recited in claims 18 and 19.

The Rejection of Claims 1-4, 6-9, 17, and 21-27 under 35 U.S.C. 103(a)

Claims 1-4, 6-9, 17 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. in view of Coon et al. This rejection should be withdrawn because the combination of Mochizuki et al. and Coon et al. fails teach all the limitations of the subject claims and, therefore, fails to establish a *prima facie* case of obvious with respect to claims 1-4, 6-9, 17 and 21-27.

To establish a *prima facie* case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2143.

Independent **claim 1** is directed towards a radiation detector module that includes, *inter alia*, electronics arranged on a side of a detector array opposite from a scintillator in a path to receive penetrating radiation that has passed through the scintillator; a radiation shield disposed between the detector array and the electronics, the radiation shield being

substantially absorbing with respect to the penetrating radiation, the radiation shield including openings communicating between the detector array and the electronics; electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector array and the electronics. The combination of Mochizuki et al. and Coon et al. does not teach or suggest these claim aspects.

The Office concedes that Mochizuki et al. fails to teach a radiation module with a radiation shield having openings between a detector and electronics, and electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector and the electronics. In an attempt to make up for this conceded deficiency, the Office asserts that Coon et al. teaches such aspects. The Office contends that it would have been obvious to use the electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector and the electronics as taught in Coon et al. with Mochizuki et al. since the radiation shield would shield the electronics from radiation. However, Coon et al. does not teach or suggest such aspects.

More particularly, the Office asserts that the planar carrier 3 and feedthroughs 13 teach the claimed radiation shield and feedthroughs. However, claim 1 requires that radiation shield be substantially absorbing with respect to radiation. In contrast, the planar carrier 3 of Coon et al. is transparent to radiation in that it allows radiation to pass through. By way of example, Figs 4 and 5 show stacks 37 of modules 1 in which each module 1 includes radiation detector units 9 that detect radiation. (See also column 3, lines 39-42 and 59-68). The modules 1 are stacked along a z-direction, which is the direction of the radiation B, to establish multiple radiation lengths in the radiation beam path through the detector units 9. (See column 5, line 66 to column 6, line 2; and Fig. 5). In order for the radiation to be detected by a detector unit 9 in an nth module 1 stacked beneath a first module 1, the radiation must be able to pass through the planar carrier 3 of the first module 1 and any modules between the first and nth module.

Hence, in direct contrast to the Office's assertion, the feedthroughs 13 of Coon et al. do not pass through a radiation shield that substantially absorbs radiation as recited in the subject claim as purported by the Office. Moreover, since the planar carrier 3 passes

radiation, the planar carrier 3 would not shield the feedthroughs 13 from radiation as purported by the Office. Accordingly, this rejection should be withdrawn.

Claims 2-4, 6-9 and 17 depend from claim 1 and are allowable at least by virtue of their dependencies.

Independent **claim 21** is directed towards a method for detecting penetrating radiation. The method includes, *inter alia*, electrically communicating the electrical signals via feedthroughs in a radiation shield disposed behind the second face of the planar region to electronics disposed behind the radiation shield while absorbing the remainder of the penetrating radiation with the radiation shield. As discussed *supra*, the Office relies on Coon et al. to teach this claim aspect, and Coon et al. does not teach or suggest feedthroughs that pass through a radiation shield that substantially absorbs radiation converted to electrical signals. Rather, the element in Coon et al. that the Office asserts teaches the claimed radiation shield, the carrier 3, allows radiation to pass so that detector units 9 below the carrier 3 can detect radiation passing through the carrier 3. As such, this rejection should be withdrawn.

Claims 22-24 depend from claim 21 and are allowable at least by virtue of their dependencies.

Claim 25 has been amended to recite that the radiation shield is disposed atop the insulating support in a direction of the radiation. The Office asserts that the carrier 3 teaches the claimed radiation shield and that the sleeve 23 teaches the claimed insulating support. However, the carrier 3 is not disposed atop the sleeve 23 with respect to a direction of the radiation. Rather, the sleeve 23 resides in a bore 25 in the carrier 3, thereby lying next to the carrier 3 with respect to a direction perpendicular to the direction of the radiation and in a same plane of the carrier 3 with respect to the direction of the radiation. Accordingly, this rejection should be withdrawn.

Independent **claim 26** is directed towards a radiation module. The Office fails to establish a *prima facie* case of obvious with respect to claim 26 as the Office has not identified each feature or element in the cited reference that the Office deems corresponds to the claimed aspects. For example, claim 26 requires radiation shield openings that are slanted relative to an incoming direction of radiation traversing a scintillator to prevent the radiation traversing from passing through the opening. The Office does not address this claim aspect.

The goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity. (See MPEP §706). The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. (See 37 C.F.R. §1.104(c)(2)). The Office must explain point out where the specific limitations of the claims are found in the prior art. (See *Ex Parte Naoya Isoda*, Appcal No. 2005-2289, Application 10/064,508 (Bd. Pat. App. & Inter.2005)).

Applicant requests that the Office specifically identify each feature or element in the cited reference which is deemed to correspond to the claimed elements and limitations, and if possible the location in the cited reference where the relevant feature or element is discussed, in a non-final Office Action. Otherwise, this rejection should be withdrawn.

Independent **claim 27** is directed towards a radiation module. The Office fails to establish a *prima facie* case of obvious with respect to claim 27 as the Office has not identified each feature or element in the cited reference that the Office deems correspond to the claimed aspects. For example, claim 27 requires first and second radiation shields, disposed between a detector array and electronics, that both substantially absorb radiation that traverses a scintillator and strikes the detector array. The Office does not address this claim aspect.

The goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity. (See MPEP §706). The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. (See 37 C.F.R. §1.104(c)(2)). The Office must explain point out where the specific limitations of the claims are found in the prior art. (See *Ex Parte Naoya Isoda*, Appeal No. 2005-2289, Application 10/064,508 (Bd. Pat. App. & Inter.2005)).

Applicant requests that the Office specifically identify each feature or element in the cited reference which is deemed to correspond to the claimed elements and limitations, and if possible the location in the cited reference where the relevant feature or element is discussed, in a non-final Office Action. Otherwise, this rejection should be withdrawn.

The Rejection of Claims 10 and 11 under 35 U.S.C. 103(a)

Claims 10 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. in view of Coon et al. and further in view of Batten et al. **Claims 10 and 11** depend from claim 1 and are allowable at least by virtue of their dependencies.

The Rejection of Claims 12-16 under 35 U.S.C. 103(a)

Claims 12-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. in view of Coon et al. and further in view of Hoffman. **Claims 12-16** depend from claim 1 and are allowable at least by virtue of their dependencies.

The Rejection of Claim 20 under 35 U.S.C. 103(a)

Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon in view of Mochizuki et al. and further in view of Coon et al. **Claim 20** depends from claim 1 and is allowable at least by virtue of this dependency.

Application No. 10/541,623
Amdt. Dated: December 5, 2007
Reply to Office Action Dated: October 3, 2007

Newly Added Claims

Claims 28 and 29 have been added to emphasize various aspects. No new matter has been added. Entry and allowance of these claims is respectfully requested.

Conclusion

In view of the foregoing, it is submitted that the claims distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,

DRIGGS, HOGG & FRY CO., L.P.A.



Anthony M. Del Zoppo, III Reg. No. 51.606
Driggs, Hogg & Fry Co., L.P.A.
38500 Chardon Road
Willoughby Hills, Ohio 44094
Phone: 1.440.391.5100
Fax: 1.440.391.5101

Direct all correspondence to:

Thomas M. Lundin, Registration No. 48,979
Philips Intellectual Property & Standards
595 Miner Road
Cleveland, Ohio 44143
Phone: 440.483.4281
Fax: 440.483.2452